UNITED STATES NAVAL OBSERVATORY

CIRCULAR NO. 31

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POSITIONS, AREAS, AND COUNTS OF SUNSPOTS
MARCH-APRIL, 1951

By Lucy T. Day

These results are based upon measurements made at the Naval Observatory on plates secured either there or at the Mt. Wilson Observatory. The symbols used for the entries in the successive columns are as follows:

U.T., the epoch of observation in Universal Time.
No., the identifying number of the group assigned by Mt. Wilson.
Δl, the heliographic difference in longitude from the central meridian, measured positive to the west.
φ, the heliographic latitude, measured positive to the north.
ρ, the heliocentric angular distance from the line joining the centers of the Earth and Sun.
A, the true area of the umbra plus penumbra, expressed in millionths of the visible hemisphere.
s, the number of spots.

An asterisk means that no Mt. Wilson number was assigned. Plates secured at the Naval Observatory are indicated by N, and those at Mt. Wilson by W. The plate quality, which follows, is indicated by:

1, Poor; 2, Fair; 3, Good; 4, Very Good; 5, Excellent.

The following five quantities are listed successively at the end of each day, and give for that day:

1. The total number of groups, g.
2. The longitude of the central meridian, L_0.
3. The latitude of the center of the disc, B_0.
4. The total value of A.
5. The total value of s.

The mean daily area and the mean relative sunspot number, $r=10g+s$ are given at the end of the month.

These results are a continuation of those published in the *Monthly Weather Review* from February 1, 1927 to December 31, 1947.

MARCH

U.T.	No.	Δl	φ	ρ	A	s
		°	°	°		
2.712	10609	−18	−13	20	48	6
N−3	10609	−11	−12	13	73	7
	10609	− 7	−12	9	73	8
	10607	+40	+ 4	42	36	7
	10607	+45	+ 4	47	48	1
	10605	+80	+12	80	97	4
	10605	+85	+10	85	194	6
	(3)	(347)	(−7)		569	39
3.882	10609	− 4	−13	7	48	4
W−1	10609	+ 3	−13	6	97	5
	10609	+ 9	−13	12	97	1
	10607	+60	+ 4	62	48	1
	(2)	(332)	(−7)		290	11
4.678	40609	+ 9	−13	11	73	6
W−2	10609	+12	−12	13	6	1
	10609	+17	−12	18	61	9
	10611	+12	+12	23	12	1
	10611	+17	+13	26	16	4
	10607	+72	+ 4	72	24	1
	(3)	(321)	(−7)		192	22
5.679	10609	+22	−14	23	48	4
N−3	10609	+26	−13	27	36	3
	10609	+30	−13	31	24	1
	10609	+33	−14	34	48	8
	10611	+26	+13	33	12	1
	10611	+30	+13	36	24	1
	(2)	(308)	(−7)		192	18
6.660	10613	−75	+15	77	291	2
N−2	(*)	−57	+10	60	24	5
	10609	+41	−13	41	61	1
	10609	+41	−15	41	48	3
	10611	+44	+12	48	61	3
	(4)	(295)	(−7)		485	14
7.678	10613	−62	+16	66	6	1
N−2	10613	−61	+15	64	242	1
	10612	− 8	−19	14	24	2
	10612	0	−17	10	36	1
	10612	+ 3	−15	8	48	1
	10609	+56	−14	56	24	3
	10609	+56	−17	56	24	1
	10611	+57	+12	60	48	4
	(4)	(282)	(−7)		452	14
8.780	10613	−49	+15	53	24	3
N−3	10613	−48	+15	53	242	1
	10612	+17	−15	19	36	1
	(2)	(267)	(−7)		302	5
9.623	10613	−37	+15	43	36	5
N−3	10613	−34	+15	40	218	1
	10612	+30	−15	31	36	1
	(2)	(256)	(−7)		290	7

U.T.	No.	Δl	φ	ρ	A	s
		°	°	°		
10.667	10613	−23	+14	32	48	5
W−3	10613	−19	+14	28	218	2
	10612	+45	−15	45	24	3
	(2)	(243)	(−7)		290	10
11.672	10614	−31	− 3	32	109	1
N−3	10614	−28	− 2	29	121	10
	10614	−25	− 2	26	73	1
	10613	−11	+13	23	12	2
	10613	− 8	+13	22	206	12
	(2)	(229)	(−7)		521	26
12.643	10615	−75	− 4	75	12	1
N−3	10614	−18	− 4	19	194	2
	10614	−16	− 3	17	61	5
	10614	−10	− 4	11	97	1
	10613	+ 5	+13	21	194	1
	(3)	(216)	(−7)		558	10
13.933	10614	− 3	− 4	4	145	1
W−1	10614	− 1	− 3	4	48	2
	10614	+ 1	− 2	5	36	1
	10614	+ 7	− 4	7	97	1
	10613	+20	+13	28	194	1
	(2)	(199)	(−7)		520	6
14.681	10614	+ 7	− 4	8	97	2
W−2	10614	+10	− 4	11	36	3
	10614	+19	− 4	20	97	1
	10613	+31	+13	36	194	1
	10613	+32	+13	37	16	1
	(2)	(190)	(−7)		440	8
15.643	10614	+21	− 5	21	73	1
N−2	10614	+31	− 4	32	85	3
	10613	+46	+12	50	182	1
	(2)	(177)	(−7)		340	5
16.748	10616	−85	+12	85	679	1
N−2	10614	+36	− 5	36	48	1
	10614	+47	− 5	47	48	1
	10613	+59	+11	62	194	1
	(3)	(162)	(−7)		969	4
17.624	10616	−72	+12	74	776	1
N−2	10614	+48	− 6	48	36	1
	10614	+60	− 7	60	24	1
	10613	+72	+11	74	194	1
	(3)	(151)	(−7)		1030	4
18.813	10617	−73	+ 5	74	194	1
W−2	10616	−60	+12	63	48	1
	10616	−57	+12	60	776	1
	10614	+62	− 6	62	36	1
	10614	+76	− 7	76	24	1
	(3)	(135)	(−7)		1078	5

MARCH

U.T.	No.	Δl	φ	ρ	A	s
		°	°	°		
19.735	10617	−60	+ 5	62	194	1
W−2	10616	−47	+12	51	73	2
	10616	−44	+17	50	12	1
	10616	−43	+13	47	824	1
	10618	+36	+12	40	24	4
	10618	+37	+13	42	36	1
	(3)	(123)	(−7)		1163	10
20.647	10617	−47	+ 5	49	194	1
N−2	10616	−30	+17	38	24	1
	10616	−30	+13	36	824	1
	10616	−25	+14	32	12	1
	10619	− 3	+19	26	16	4
	10618	+46	+12	49	48	1
	10618	+49	+13	53	73	1
	(4)	(111)	(−7)		1191	10
21.742	10622	−57	+14	60	36	1
N−3	10617	−33	+ 5	35	267	1
	10616	−17	+13	27	873	1
	10620	+41	+15	47	16	2
	10618	+60	+10	62	12	1
	10618	+63	+11	65	48	1
	(5)	(97)	(−7)		1252	7
22.745	10624	−88	+11	88	194	2
N−2	10624	−76	+10	77	194	1
	10622	−44	+14	48	48	3
	10622	−41	+14	45	36	1
	10617	−19	+ 4	23	242	1
	10621	−13	+ 9	21	48	9
	10621	− 8	+ 9	18	12	1
	10616	− 3	+13	20	921	1
	10623	+ 6	−11	6	24	8
	10618	+79	+11	80	24	1
	(7)	(83)	(−7)		1743	28
23.651	10624	−70	+12	72	291	2
N−3	10624	−68	+12	70	73	1
	10624	−63	+11	65	388	1
	10622	−30	+14	36	12	1
	10617	− 7	+ 4	14	242	1
	10621	− 4	+10	17	61	1
	10621	− 2	+ 9	17	48	3
	10616	+ 9	+12	22	933	1
	10623	+17	−11	17	97	3
	10623	+20	−11	21	48	6
	(6)	(71)	(−7)		2193	20
24.599	10624	−56	+12	58	291	10
N−3	10624	−52	+10	54	12	1
	10624	−50	+11	53	291	3
	10625	−35	− 8	35	48	2
	10625	−32	− 7	32	48	3
	10622	−13	+13	24	16	1
	10617	+ 4	+ 6	15	36	2
	10617	+ 4	+ 5	14	24	1
	10617	+ 5	+ 4	13	242	1
	10621	+ 8	+10	19	97	5
	10621	+12	+ 8	20	48	4
	10616	+19	+13	28	48	6
	10616	+21	+12	28	970	1
	10623	+29	−11	29	194	2
	10623	+32	−10	32	145	12
	(7)	(59)	(−7)		2510	54
25.812	10626	−69	+18	71	48	3
N−2	10624	−38	+11	42	145	6
	10624	−35	+11	40	145	12
	10624	−32	+10	35	242	2
	10617	+20	+ 4	22	24	1
	10617	+21	+ 4	23	194	1
	10621	+21	+ 9	27	73	1
	10621	+28	+ 8	32	24	1
	10616	+33	+12	38	48	1
	10616	+36	+12	40	48	1
	10616	+37	+12	41	970	1
	10623	+44	−11	44	291	1
	10623	+45	− 9	45	24	1
	10623	+48	− 9	48	109	2
	(6)	(43)	(−7)		2385	34
26.695	10626	−54	+16	52	12	1
N−3	10627	−51	−13	51	12	2
	10624	−26	+12	32	170	15
	10624	−23	+11	29	97	6
	10624	−22	+10	28	206	1
	10622	+13	+12	22	12	1
	10617	+33	+ 4	35	194	1
	10621	+36	+ 9	40	48	3
	10616	+47	+13	50	242	6
	10616	+50	+12	52	970	2
	10623	+55	−10	55	6	1
	10623	+56	−12	56	291	2
	10623	+60	−10	60	97	7
	(7)	(31)	(−7)		2357	48
27.642	10627	−40	−12	40	48	1
N−4	10627	−37	−12	41	12	3
	10624	−11	+11	21	145	15
	10624	− 9	+ 9	18	267	2
	10622	+25	+11	31	24	1
	10617	+47	+ 4	48	170	1
	10621	+49	+ 8	52	48	1
	10616	+59	+13	61	24	6
	10616	+61	+12	63	1067	1
	10623	+69	−12	70	291	1
	10623	+73	−10	73	48	3
	10623	+75	− 9	75	145	1
	(7)	(19)	(−7)		2289	36
28.682	10627	−27	−13	27	97	4
W−2	10627	−23	−13	24	48	5
	10624	+ 2	+11	18	61	4
	10624	+ 4	+ 9	17	242	1
	10617	+61	+ 4	62	145	1
	10621	+65	+ 8	67	48	1
	10616	+75	+12	76	970	1
	(5)	(5)	(−7)		1611	17

MARCH – APRIL

U.T.	No.	Δl	φ	ρ	A	s
		°	°	°		
29.741	10628	−78	−16	78	97	4
W−3	10627	−15	−13	16	16	2
	10627	−10	−12	12	12	1
	10624	+15	+11	23	36	4
	10624	+18	+ 9	23	194	1
	10617	+74	+ 4	74	145	1
	(4)	(351)	(−7)		500	13
30.860	10628	−69	−14	69	97	1
N−2	10628	−63	−15	63	73	5
	10627	+ 8	−13	11	16	10
	10624	+32	+ 8	35	97	1
	10624	+34	+ 8	38	12	1
	10624	+33	+ 7	35	16	1
	(3)	(336)	(−7)		311	19
31.670	10628	−57	−14	57	121	7
N−2	10628	−53	−14	53	12	2
	10628	−50	−15	50	12	1
	10627	+16	−13	16	24	5
	10624	+42	+ 9	44	12	1
	10624	+44	+ 8	46	97	4
	(3)	(326)	(−7)		278	20

Mean for 30 days, A=943, r=54.4

1.851	10628	−42	−16	43	61	4
N−2	10628	−35	−16	37	12	5
	10627	+28	−13	29	24	10
	10624	+50	+ 4	52	12	2
	10624	+60	+ 8	63	97	3
	(*)	+65	+ 5	67	16	2
	(4)	(310)	(−7)		222	26
2.735	10629	−80	+13	80	97	1
W−2	10628	−29	−16	31	16	1
	10628	−25	−16	26	24	7
	10624	+71	+ 8	73	73	1
	(3)	(298)	(−6)		210	10
3.678	10629	−66	+13	70	121	1
N−3	(*)	+12	−16	16	61	1
	(2)	(286)	(−6)		182	2
4.661	10629	−52	+14	56	97	1
N−2	(*)	− 7	−18	13	36	5
	(2)	(273)	(−6)		133	6
5.665	10633	−75	− 7	75	24	3
N−2	10629	−38	+14	43	73	1
	10615	− 8	+15	23	97	5
	10615	− 5	+15	22	73	1
	10628	+ 7	−19	13	36	1
	10628	+12	−18	17	24	5
	(*)	+31	−10	31	12	1
	(3)	(260)	(−6)		339	17

U.T.	No.	Δl	φ	ρ	A	s
		°	°	°		
6.651	10633	−61	− 8	61	12	2
N−3	10632	−54	− 9	54	36	1
	10632	−51	− 9	51	61	1
	10629	−25	+15	33	36	1
	10630	+ 3	+15	22	121	8
	10630	+ 8	+14	23	218	10
	10628	+22	−19	24	36	1
	(5)	(247)	(−6)		520	24
7.646	10634	−68	− 2	68	24	4
N−3	10633	−48	− 8	48	12	2
	10632	−41	− 9	41	36	7
	10632	−39	− 9	39	73	1
	10629	−12	+14	23	48	4
	10630	+15	+15	25	145	2
	10630	+17	+13	25	48	4
	10630	+21	+13	28	267	6
	10628	+33	−21	35	24	1
	(6)	(234)	(−6)		677	31
8.622	10634	−62	− 3	62	36	6
W−4	10634	−58	− 3	58	61	3
	10633	−42	−10	42	24	7
	10633	−38	−10	38	16	9
	10633	−35	−10	35	12	1
	10632	−29	−11	29	24	9
	10632	−24	−10	24	73	1
	10629	+ 1	+14	20	36	1
	10630	+27	+15	35	291	1
	10630	+30	+14	36	48	4
	10630	+34	+12	40	388	6
	10628	+48	−19	48	6	2
	(6)	(221)	(−6)		1015	50
9.692	10634	−44	− 2	45	48	3
N−2	10634	−40	− 2	41	48	1
	10633	−26	− 9	26	48	4
	10633	−23	− 9	23	73	4
	10632	−13	−11	14	48	2
	10632	− 9	−10	10	97	3
	10629	+15	+14	25	24	1
	10635	+19	− 9	19	12	2
	10630	+40	+13	45	436	6
	10630	+49	+12	52	267	6
	(6)	(207)	(−6)		1101	32
10.774	10634	−28	− 2	30	48	1
N−2	10633	− 9	− 9	9	24	2
	10632	+ 1	−11	5	48	6
	10632	+ 3	− 9	4	24	1
	10632	+ 4	−10	6	61	5
	10629	+29	+14	35	12	1
	10635	+33	− 9	33	145	8
	10630	+55	+13	60	339	1
	10630	+57	+12	61	97	5
	10630	+63	+11	66	291	7
	(6)	(192)	(−6)		1089	37
11.669	10637	−79	− 4	79	12	2
N−3	10636	−29	+11	33	12	2

APRIL

U.T.	No.	Δl	φ	ρ	A	s
		°	°	°		
	10634	−15	− 2	15	6	1
	10634	−13	− 2	14	12	1
	10633	+ 3	−10	5	24	10
	10632	+14	−14	15	12	2
	10632	+17	−11	17	145	16
	10629	+41	+14	46	6	1
	10635	+47	− 9	47	97	12
	10630	+67	+13	70	339	1
	10630	+69	+13	72	97	3
	10630	+77	+12	80	97	4
	(8)	(180)	(−6)		859	55
12.645	10639	−80	+12	80	776	3
W−3	10638	−74	− 8	74	242	15
	10638	−73	− 5	73	16	2
	10637	−65	− 4	65	48	6
	10633	+17	−10	17	24	9
	10632	+28	−11	28	145	10
	10632	+30	−10	30	48	5
	10632	+30	− 8	30	73	8
	10635	+61	− 9	61	36	2
	10630	+80	+14	80	339	1
	(7)	(168)	(−6)		1747	61
13.792	10639	−70	+16	75	873	1
N−3	10639	−70	+18	74	291	1
	10639	−65	+16	70	48	4
	10639	−62	+13	67	679	1
	10638	−59	− 8	59	109	6
	10638	−55	− 7	55	73	4
	10637	−49	− 5	49	24	6
	10637	−45	− 4	46	109	10
	10640	+23	− 9	23	16	2
	10632	+41	−12	41	61	4
	10632	+45	−11	45	97	2
	(5)	(152)	(−6)		2380	41
14.645	10639	−58	+16	63	873	9
N−3	10639	−58	+17	63	242	2
	10639	−54	+12	59	194	3
	10639	−49	+13	53	679	3
	10638	−47	− 8	47	97	3
	10638	−43	− 6	43	61	5
	10637	−37	− 5	37	73	6
	10637	−34	− 4	35	145	6
	10640	+38	− 9	38	24	1
	10632	+53	−12	53	73	1
	10632	+59	−11	59	97	2
	10632	+61	−10	61	242	4
	(5)	(141)	(−6)		2800	45
15.714	10641	−56	+ 8	59	6	1
N−3	10639	−43	+13	48	921	5
	10639	−43	+17	50	242	2
	10639	−39	+14	43	145	3
	10639	−35	+12	41	679	1
	10638	−32	− 9	32	121	7
	10638	−28	− 7	28	6	3
	10637	−23	− 6	23	97	5
	10637	−18	− 5	18	121	5
	(4)	(127)	(−6)		2338	32

U.T.	No.	Δl	φ	ρ	A	s
		°	°	°		
16.892	10639	−28	+18	38	194	1
N−1	10639	−28	+13	34	921	8
	10639	−19	+13	27	727	4
	10637	− 8	− 5	8	97	2
	10637	− 2	− 5	1	97	2
	10637	0	− 4	2	97	1
	(2)	(111)	(−6)		2133	18
17.632	10639	−18	+18	29	242	5
N−2	10639	−17	+13	24	485	9
	10639	−13	+12	22	436	5
	10639	− 8	+12	19	776	5
	10642	− 7	+21	27	24	2
	10637	+ 3	− 5	3	48	5
	10637	+ 8	− 4	8	97	6
	10637	+10	− 4	10	97	1
	(3)	(102)	(−5)		2205	38
18.631	10639	− 8	+11	18	24	4
N−3	10639	− 5	+14	18	824	10
	10639	− 5	+17	23	145	7
	10639	0	+13	18	582	14
	10639	+ 4	+13	17	630	6
	10639	+ 7	+ 9	15	73	1
	(*)	+ 3	− 8	5	97	6
	10642	+ 4	+21	26	16	2
	10642	+ 7	+19	25	16	2
	10637	+17	− 5	17	48	3
	10637	+23	− 4	23	242	7
	(4)	(89)	(−5)		2697	62
19.724	10639	+10	+13	21	218	22
N−3	10639	+10	+17	25	582	14
	10639	+14	+11	21	533	23
	10639	+16	+11	22	485	25
	10639	+20	+12	26	533	10
	10639	+22	+ 9	26	48	1
	10639	+17	+ 8	22	121	15
	(*)	+16	− 8	16	36	4
	10642	+17	+19	29	12	1
	10637	+38	− 5	38	218	9
	(4)	(74)	(−5)		2786	124
20.651	10644	−57	−12	57	73	1
N−3	10644	−53	−12	54	73	2
	10643	−53	− 7	53	73	8
	10639	+22	+15	28	315	8
	10639	+23	+12	29	242	11
	10639	+27	+10	32	776	20
	10639	+27	+17	35	24	10
	10639	+30	+ 9	33	24	6
	10639	+33	+12	37	582	4
	10639	+35	+ 8	38	73	2
	(*)	+29	−10	30	48	4
	10642	+30	+19	38	12	1
	10637	+51	− 6	51	206	1
	(6)	(62)	(−5)		2521	78
21.661	10646	−65	+19	68	36	1
N−3	10646	−60	+19	64	97	3
	10644	−44	−13	45	97	8

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U.T.	No.	Δl	φ	ρ	A	s
		°	°	°		
	10644	−39	−14	40	48	5
	10643	−41	− 8	41	24	2
	10643	−40	−10	40	61	2
	10643	−38	− 8	38	73	4
	10645	−10	+12	19	32	1
	10645	− 8	+11	18	32	1
	10639	+35	+15	40	242	7
	10639	+37	+11	40	291	15
	10639	+40	+ 9	43	630	10
	10639	+45	+12	48	533	3
	10639	+46	+ 8	48	24	4
	10642	+40	+17	46	24	5
	10638	+44	−10	44	73	2
	10637	+64	− 6	64	218	2
	(8)	(48)	(−5)		2535	75
22.756	10646	−51	+19	55	121	11
W−3	10646	−47	+18	52	48	6
	10646	−44	+17	48	145	12
	10644	−29	−16	32	48	10
	10644	−22	−15	24	97	22
	10643	−25	−11	26	73	9
	10643	−21	−10	22	24	5
	10645	+ 5	+12	17	24	4
	10645	+ 9	+10	17	12	2
	10639	+48	+19	52	12	1
	10639	+49	+15	52	242	10
	10639	+49	+12	51	97	6
	10639	+53	+11	55	583	20
	10639	+53	+17	57	97	17
	10639	+60	+11	62	533	1
	10639	+61	+ 9	62	61	3
	10638	+58	−10	58	24	1
	10637	+79	− 6	79	194	1
	(7)	(34)	(−5)		2435	141
23.667	10648	−78	− 4	78	24	2
N−3	10646	−40	+20	47	145	3
	10646	−35	+19	43	170	9
	10646	−30	+18	38	194	1
	10646	−32	+ 3	33	24	3
	10646	−29	+ 2	30	36	1
	10644	−19	−15	22	48	2
	10644	−13	−16	17	145	12
	10644	−12	−14	15	267	6
	10643	−14	−11	14	24	4
	10645	+17	+11	23	36	2
	10639	+60	+12	62	315	4
	10639	+63	+15	66	97	7
	10639	+63	+10	65	145	1
	10639	+67	+ 8	69	194	7
	10639	+70	+10	72	776	2
	10639	+78	+ 6	79	12	1
	(5)	(22)	(−5)		2652	67
24.704	10648	−67	− 3	67	48	6
N−4	10648	−61	− 4	61	106	1
	10646	−28	+20	38	218	2
	10646	−23	+18	32	97	17
	10646	−19	+18	30	97	11
	10646	−17	+18	28	194	1
	10647	−19	+ 3	21	24	1
	10647	−18	+ 2	20	12	4
	10647	−14	+ 2	14	61	2
	10644	− 4	−17	13	97	16
	10644	+ 2	−14	9	291	2
	10644	+ 3	−13	8	12	4
	10643	− 1	−12	7	24	5
	10639	+74	+13	76	291	2
	10639	+77	+16	78	12	1
	10639	+77	+11	79	194	5
	10639	+78	+ 8	78	242	1
	10639	+88	+ 7	88	194	1
	(6)	(8)	(−5)		2214	82
25.659	10648	−54	− 3	54	73	4
N−2	10648	−49	− 4	49	24	7
	10648	−48	− 5	48	194	1
	10646	−15	+20	29	194	1
	10646	−12	+18	28	61	1
	10646	− 7	+18	24	97	6
	10646	− 4	+18	23	194	1
	10647	− 6	+ 3	10	12	1
	10647	+ 1	+ 1	6	24	1
	10644	+ 9	−17	15	145	8
	10644	+12	−14	15	145	15
	10644	+15	−16	19	315	2
	(4)	(356)	(−5)		1478	48
26.658	10650	−69	− 9	69	61	1
N−2	10648	−40	− 3	40	61	2
	10648	−34	− 5	34	61	1
	10648	−33	− 6	33	194	1
	10646	− 1	+20	25	194	1
	10646	+ 3	+19	24	109	9
	10646	+ 7	+18	24	36	1
	10646	+ 9	+17	23	194	1
	10647	+15	+ 1	17	12	1
	10644	+23	−17	26	242	30
	10644	+29	−14	30	24	4
	10644	+30	−15	32	436	1
	(5)	(342)	(−5)		1624	53
27.654	10650	−55	− 9	55	48	1
N−3	10648	−27	− 4	27	48	3
	10648	−20	− 5	20	218	5
	10649	− 7	− 4	7	97	10
	10646	+12	+20	28	242	3
	10646	+17	+18	28	97	7
	10646	+23	+17	32	194	1
	10647	+28	+ 1	29	48	3
	10644	+36	−17	37	315	4
	10644	+43	−15	44	485	1
	10644	+44	−18	45	48	1
	(6)	(329)	(−5)		1840	39
28.698	10650	−41	− 9	41	48	1
N−3	10648	−14	− 5	14	36	4
	10648	− 6	− 5	5	170	2
	10649	+ 7	− 4	7	121	6
	10649	+10	− 4	10	145	3
	10646	+26	+20	35	194	1
	10646	+35	+17	40	36	4
	10646	+37	+17	42	194	1
	10644	+49	−18	50	291	5

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U.T.	No.	Δl	φ	ρ	A	s
		°	°	°		
	10644	+55	−14	55	6	1
	10644	+57	−15	57	485	1
	(5)	(316)	(−4)		1726	29
29.651	(*)	−66	− 7	66	6	1
N−2	10650	−28	−10	29	48	1
	10648	− 1	− 7	3	48	3
	10648	+ 7	− 6	7	194	1
	10649	+19	− 5	19	194	1
	10649	+24	− 4	24	218	2
	10646	+38	+19	44	218	1
	10646	+40	+17	45	73	2
	10646	+49	+16	52	145	1
	10644	+60	−20	60	194	1
	10644	+70	−15	70	679	1
	(6)	(303)	(−4)		2017	15
30.652	10650	−15	−11	15	24	1
N−2	10648	+12	− 6	12	12	2
	10648	+21	− 6	21	158	1
	10649	+32	− 5	32	206	3
	10649	+39	− 4	39	206	1
	10646	+50	+19	54	194	1
	10646	+52	+17	56	73	3
	10646	+61	+15	63	194	1
	10644	+74	−20	74	145	1
	10644	+83	−17	83	630	1
	(5)	(290)	(−4)		1842	15

Mean for 30 days, $A = 1611$, $r = 94.4$

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